# Documentation Sheet

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**Title** *Pattern Synthesis Studies for Planar and Non-planar Conformal Arrays*

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**Abstract**

*Conformal arrays are the most general type of phased array, and can be defined as an array whose elements conform to the non-planar surface. They have applications in arrays for missiles, submarines, ships, high speed aircraft, and also in systems that require wide-angle coverage. In the present report, simulation study for the pattern synthesis of circular aperture, circular arrays, hexagonal and cylindrical arrays is carried out. The beam patterns are generated for these planar and non-planar arrays using different amplitude distributions viz. uniform, Taylor, Dolph-Chebyshev, Villeneuve excitation. The concept of phase modes is also included in the code development for circular and cylindrical arrays. Results obtained are validated against those available in open literature.*